

## REMARKS

Favorable reconsideration and allowance of this application are requested.

### **1. Discussion of Claim Amendments**

By way of the amendment instructions above, claim 1 has been amended so as to be commensurate with the specification at page 8, lines 25-27. Withdrawal of the specification objection advanced under 37 CFR §1.75d1) is therefore in order.

Claim 13 is new and defines the composition as consisting only of components (A), (B) and optionally (C), wherein component (C) if present is at least one additive selected from the group consisting of mould-release agents, lubricants, nucleating agents and flow-promoters. Support for new claim 13 can be found in the specification at page 11, lines 5-6 as well as original claim 1 (which constitutes its own "disclosure").

Therefore, following entry of this amendment claims 1-13 will be pending herein for which favorable action is solicited.

### **2. Response to Substantive Rejections**

Prior claims 1-12 attracted rejections alternatively under 35 USC §§102(b) or 103(a) as being unpatentable over one of Mogami et al (USP 5,684,071), Yamamoto et al (USP 5,770,644), Tanaka et al (JP 2003-076088), Yoshihara et al (JP 11-080519) or Saiki et al (JP 09-143346). As will become evident from the following discussion, all pending claims are in fact patentably distinguishable over such applied publications.

At the outset, applicants note that pending claim 1 is directed to a *specifically defined* composition, consisting of *specific* components only, defined in *specific* quantities. In direct contrast, the compositions described in the applied publications are defined broadly and not specific in all their components. Furthermore, the examples

provided in the applied publications deviate from composition as defined in pending claim 1

The present invention as defined by pending claim 1 is directed to a flame retardant polymer composition **consisting of**:

- (A) 30-67 mass % of at least one thermoplastic polyester, and.....
- (B) a flame retardant system consisting of:
  - a) 33-55 mass % of melamine cyanurate
  - b) 0 to less than 2 wt.% of a phosphorous containing flame retardant.....
- .....
- (C) 0-10 mass % of other additives, of which 0—5 mass % may be fibrous reinforcing agents.

The polymer composition according to the claimed invention therefore contains a very high amount of melamine cyanurate and a very low or no amount of a phosphorous containing compound. It also contains a very low or no amount of fibres. Because of the low or no content of a phosphorous-containing compound, very good results are obtained with respect to thermal and hydrolysis resistance. (See for example the specification at page 3, line 35 bridging page 4, line 2.)

**A. Patentability over Yamamoto**

Yamamoto is directed to a fire retardant polymer composition comprising

- (A) 95-30 pbw polyester
- (B) 5-70 ppw PPE or PPS

and for the total of (A) and (B),

- (D) 2.0-45 pbw of a phosphor containing compound
- (E) 0-150 ppw of glass fibers

(G) 0-45 pbw melamine cyanurate.

Many other optional components are also disclosed.

Yamamoto does not teach the *specific* combination of a high melamine cyanurate content and very low or no phosphorous compound content as is required by the claims of the present application.

Moreover, Yamamoto discloses that at least 2 pbw of the phosphorous compound must be present, and it may be present up to 45 pbw. In addition, the presence of melamine cyanurate is not mandatory in Yamamoto's compositions, but instead is optional.

In all examples of Yamamoto a considerable amount of the phosphorous compound is used. In the majority of the thirty examples, 15 ppw of the phosphorous compound is used, while in some examples even amounts up to 30 ppw is used. Only in example 14 is 7.5 ppw phosphorous compound is used.

Also Yamamoto discloses that, when present, a relatively *low* amount of melamine cyanurate is used. Specifically, in the examples, melamine cyanurate is used in amounts of 15 ppw or less. In general however the examples of Yamamoto employ an equal amount of phosphorous compounds and melamine cyanurate.

In addition to the relatively high amount of phosphorous compound and relatively low amount of melamine cyanurate, Yamamoto discloses in the Examples that a considerable amount of glass fibres is used. For example, in 28 of the 30 examples there is used 60 ppw chopped or milled glass fibres. In one example (Ex. 9) 20 ppw is used. Only in example 8 are no glass fibres used.

As discussed above, the examples of Yamamoto suggest that the amount of melamine cyanurate is much lower, and the amount of the phosphorous compound is much higher as compared to pending claim 1.

Therefore applicants suggest that claim 1 of the present patent application is novel in view Yamamoto.

Claim 1 is also suggested to be patentably unobvious over Yamamoto. In this regard, Yamamoto is specifically directed to the use of phosphorous ester as explained above. Yamamoto further teaches the use of melamine cyanurate together with the phosphorous ester, however at a moderate level.

In the present invention as defined by claim 1, however, the use of phosphorous compounds is limited or absent entirely. On the other hand, a high level of melamine cyanurate is used. Surprisingly a good level of flame resistance is obtained, while thermal and hydrolysis resistance is maintained.

#### **B. Patentability over Mogami**

The Examiner refers to claim 9 of Mogami which is directed toward a composition comprising:

- (A) thermoplastic polyester,
- (B) 2-50 wt.% of heterocyclic compound (melamine cyanurate respectively melamine phosphate according to claim 9),
- (C) 0.1-50 wt.% of compound (B) having at least two functional groups
- (D) 0-50 wt. % of phosphorous based flame retarder.

In the examples of Mogami, melamine cyanurate which is modified with functional groups is used in quantities up to 20 wt.%. Also 30% of a glass fiber was added in the examples (see column 13. lines 64-65).

In the specification of Mogami, there is no disclosure of the amount of thermoplastic polyester. There is certainly no disclosure in Mogami of the *specific* range of thermoplastic polyester as defined by claim 1 of the present application. There is also no disclosure of the *specific* range of melamine cyanurate of claim 1 of the present application.

Furthermore there is no disclosure of the *specific* amount of glass fibers as may be required by pending claim 1.

In the examples of Mogami, only modified melamine cyanurate is employed. Thus, no unmodified melamine cyanurate per se is used. Also the amount of glass fibers used in the examples exceeds the range of the fibers, if present, in pending claim 1.

In Mogami there is no specific teaching of a low or no amount of a phosphorous compound. There is also no specific teaching of the use of high amount of melamine cyanurate. On the contrary the melamine cyanurate-based compound and melamine-phosphate based compound contemplated by Mogami are disclosed as being equivalent to one another. Therefore there is no teaching in Mogami to obtain the desirable effects of the present invention as explained above.

### **C. Patentability over Japanese Publications**

The applied Japanese publications are even further removed from the present invention. In this regard, applicants respectfully question the relevancy of Tanaka, Yoshihara and Saiki. More specifically, the composition of the present invention is quite specific with respect to its content of the thermoplastic polyester, the melamine cyanurate, and also with respect to the limited amount of further additives. No such specific composition is disclosed in any of the applied Japanese patent publications,

It will be observed in this regard that Tanaka does not disclose at all the amount of thermoplastic polyester. Also the amount of further additives is not disclosed. In fact additional additives are necessary to lower the volume resistivity.

In Yoshihara, the specific amounts of additives, fillers, glass fibers and the like are left open. Also the composition contains undefined amounts of further polymers.

In Saiki (JP-09-1 43346) no specific amounts of all constituents are mentioned.

Therefore, individually and/or collectively, none of the applied Japanese publications anticipates or renders obvious the presently claimed invention.

Withdrawal of all art-based rejections is therefore believed to be in order.

### 3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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